



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,363	02/23/2004	George Popovich	CM05-401H	8874
22917	7590	11/26/2007		
MOTOROLA, INC. 1303 EAST ALGONQUIN ROAD IL01/3RD SCHAUMBURG, IL 60196				
EXAMINER				
JAKOVAC, RYAN J				
ART UNIT		PAPER NUMBER		
4121				
NOTIFICATION DATE		DELIVERY MODE		
11/26/2007		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Docketing.Schaumburg@motorola.com
APT099@motorola.com

Office Action Summary

Application No.

10/784,363

Applicant(s)

POPOVICH ET AL.

Examiner

Ryan J. Jakovac

Art Unit

4121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SI/02)
- Paper No(s)/Mail Date 02/23/2004
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This action is responsive to communications filed on 02/23/2004.

Claims 1-24 are pending.

Claims 1-24 are rejected.

Claim Objections

1. Claims 23 and 24 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-24 are rejected under 35 U.S.C. 102(b) as being anticipated by RFC 3220 -IP Mobility Support for Ipv4 to Ed C. Perkins (hereinafter Perkins).

Regarding claims 1 and 23, Perkins teaches in a system comprising at least one mobility server (Section 1.6 – Terminology, Home Agent is a router on a mobile node's home network which tunnels datagrams for delivery to the mobile node when it is away from home, and maintains current location information for the mobile node.), at least one mobile router (Section 1.6 – Terminology, Mobile Node is a host or router that

changes its point of attachment from one network or subnetwork to another. A mobile node may change its location without changing its IP address; it may continue to communicate with other Internet nodes at any location using its (constant) IP address, assuming link-layer connectivity to a point of attachment is available.) and a plurality of hosts (Section 1.6 – Terminology, Node is a host or router.), a method for network prefix allocation comprising the steps of:

- detecting a need for at least one network prefix for a mobile router (Section 2.1 – Agent Advertisement, Mobile nodes use agent advertisements to determine their current point of attachment (i.e. detect need for network prefix).);

- sending a registration request message to a mobility server that includes a request to allocate said at least one network prefix to said mobile router (Section 3.3 – Registration Request, A mobile node registers with its home agent using a Registration Request message so that its home agent can create or modify a mobility binding for that mobile node); and

- receiving a registration reply responsive to said registration request that includes at least one allocated network prefix (Section 3.4 – Registration Reply, A mobility agent returns a Registration Reply message to a mobile node who receives the reply and which has sent a Registration Request message.), wherein said at least one allocated network prefix is reserved for said mobile router for a first time period (Section 3.4 – Registration Policy, The reply message contains the necessary codes to inform the mobile node about the status of its request, along with the lifetime granted by the home agent.).

Regarding claim 2, Perkins teaches the method of claim 1, wherein said at least one network prefix is assigned from a pool of available network prefixes (Section 1.7 – Protocol overview, Pools of addresses are made available for mobile nodes).

Regarding claim 3, Perkins teaches the method of claim 2, wherein said pool of available network prefixes is pre-allocated to said mobility server (Section 3.3 – Registration Request, When the 'S' bit of a registration request is set, the mobile node retains its primary mobility bindings (i.e. pre-allocated network prefix).).

Regarding claim 4, Perkins teaches the method of claim 1, wherein said registration request message further includes a request to allocate said at least one network prefix for said first time period (Section 1.5 – New Architectural Entities, a mobile node is given a long-term IP address on a home network. Section 3.4 – Registration Policy, The reply message contains the necessary codes to inform the mobile node about the status of its request, along with the lifetime granted by the home agent. The request contains the "request to allocate said at least one network prefix for said time period.").

Regarding claim 5, Perkins teaches the method of claim 1, wherein said first time period is assigned by said mobility server (Section 3.3 Registration Request, A mobile node registers with its home agent using a registration request message so that its

home agent can create or modify a mobility binding for that mobile node with a new lifetime.).

Regarding claim 6, Perkins teaches the method of claim 5, wherein said first time period is a default time period (Section 3.3 Registration Request, A mobile node registers with its home agent using a registration request message so that its home agent can create or modify a mobility binding for that mobile node with a new lifetime (i.e. default time period).).

Regarding claim 7, Perkins teaches the method of claim 1, wherein said at least one allocated network prefix is identified in said registration request message (Section 3.3 – Registration Request, When the ‘S’ bit of a registration request is set, the mobile node retains its primary mobility bindings, thus the registration request is for the “allocated network prefix.”).

Regarding claim 8, Perkins teaches the method of claim 1 further comprising the step of assigning to at least one host coupled to said mobile router at least one corresponding host address based on said at least one allocated network prefix (Section 1.7 – Protocol Overview, Figure 1 shows Foreign agent as a mobile router and discloses the mobile node (i.e. host) registering with the home agent (i.e. being assigned an allocated network prefix).).

Regarding claim 9, Perkins teaches the method of claim 8, wherein said at least one corresponding host address is assigned using a Dynamic Host Configuration Protocol (Section 1.7 - Protocol Overview, Co-located care-of address is acquired by the mobile node through DHCP.).

Regarding claim 10, Perkins teaches the method of claim 1 further comprising the step of sending a subsequent registration request to said mobility server that includes a request to reserve said at least one allocated network prefix for a second time period that extends beyond said first time period (Section 3.4 – Registration Reply, A mobility agent returns a registration reply message to a mobile node which has sent a registration request message. The reply message contains the necessary codes to inform the mobile node about the status of its request, along with the lifetime granted by the home agent. The lifetime the home agent then provides may be smaller than lifetime requested by the node.).

Regarding claim 11, Perkins teaches the method of claim 1, wherein said mobility server is a home agent (Section 1.6 – Terminology, Home Agent is a router on a mobile node's home network which tunnels datagrams for delivery to the mobile node when it is away from home, and maintains current location information for the mobile node. Section 1.6 – Terminology, The mobility agent is either a home agent or a foreign agent.) .

Regarding claim 12, Perkins teaches in a system comprising at least one home agent (Section 1.6 – Terminology, The mobility agent is either a home agent or a foreign agent. Section 1.6 – Terminology, Home Agent is a router on a mobile node's home network which tunnels datagrams for delivery to the mobile node when it is away from home, and maintains current location information for the mobile node.), at least one mobile router (Section 1.6 – Terminology, Mobile Node is a host or router that changes its point of attachment from one network or subnetwork to another. A mobile node may change its location without changing its IP address; it may continue to communicate with other Internet nodes at any location using its (constant) IP address, assuming link-layer connectivity to a point of attachment is available.) and a plurality of hosts (Section 1.6 – Terminology, Node is a host or router.), a method for network prefix allocation comprising the steps of:

- detecting a need for at least one network prefix for a mobile router (Section 2.1 – Agent Advertisement, Mobile nodes use agent advertisements to determine their current point of attachment (i.e. detect need for network prefix).);

- sending a registration request message to a home agent that includes a request to allocate said at least one network prefix to said mobile router (Section 3.3 – Registration Request, A mobile node registers with its home agent using a Registration Request message so that its home agent can create or modify a mobility binding for that mobile node); and

- receiving a registration reply responsive to said registration request that includes at least one allocated network prefix (Section 3.4 – Registration Reply, A mobility agent

returns a Registration Reply message to a mobile node who receives the reply and which has sent a Registration Request message.), wherein said at least one allocated network prefix is reserved for said mobile router for a first time period (Section 3.4 – Registration Policy, The reply message contains the necessary codes to inform the mobile node about the status of its request, along with the lifetime granted by the home agent.).

Regarding claims 13 and 24, Perkins teaches in a system comprising at least one mobility server (Section 1.6 – Terminology, The mobility agent is either a home agent or a foreign agent. Section 1.6 – Terminology, Home Agent is a router on a mobile node's home network which tunnels datagrams for delivery to the mobile node when it is away from home, and maintains current location information for the mobile node.), at least one mobile router (Section 1.6 – Terminology, Mobile Node is a host or router that changes its point of attachment from one network or subnetwork to another. A mobile node may change its location without changing its IP address; it may continue to communicate with other Internet nodes at any location using its (constant) IP address, assuming link-layer connectivity to a point of attachment is available.) and a plurality of hosts (Section 1.6 – Terminology, Node is a host or router.), a method for network prefix allocation comprising the steps of:

receiving a registration request message from a mobile router that includes a request to allocate at least one network prefix to said mobile router; allocating at least one network prefix to said mobile router; and sending a registration reply to said mobile

router responsive to said registration request that includes said at least one allocated network prefix, wherein said at least one allocated network prefix is reserved for said mobile router for a first time period (Section 3.3 – Registration Request, A mobile node registers with its home agent using a Registration Request message so that its home agent can create or modify a mobility binding for that mobile node. Home agent (i.e. mobility server) thus receives a registration request from the mobile node (i.e. mobile router). Section 3.4 – Registration Policy, The received reply message contains the necessary codes to inform the mobile node about the status of its request, along with the lifetime granted by the home agent.).

Regarding claim 14, Perkins teaches the method of claim 13 further comprising setting a timer for a time equal to said first time period (Section 2.4.2.1 – Algorithm 1, The mobile node records the time period between when it first receives an agent advertisement and when that lifetime expires.).

Regarding claim 15, Perkins teaches the method of claim 14 further comprising returning said at least one allocated network prefix to a pool of available network prefixes upon the expiration of said timer (Section 2.4.2.1 – Algorithm 1, If the mobile node fails to receive another agent advertisement from the same agent within the specified lifetime, it assumes it has lost contact with that agent and moves on. In this case the mobile node would acquire a new IP address from the next agent and its old address would then be returned.).

Regarding claim 16, Perkins teaches the method of claim 15, wherein said pool of available network prefixes is pre-allocated to said mobility server (Section 1.7 – Protocol overview, Pools of addresses are made available for mobile nodes).

Regarding claim 17, Perkins teaches the method of claim 13 further comprising the step of advertising reachability via internet protocol (IP) dynamic routing protocols for said at least one allocated network prefix (Section 2.1 – Agent Advertisement, Agent advertisements are transmitted by a mobility agent to advertise its services on a link. Mobile nodes use these advertisements to determine their current point of attachment to the Internet. An agent advertisement is an ICMP Router Advertisement that has been extended to also carry a mobility agent advertisement extension.).

Regarding claim 18, Perkins teaches the method of claim 13, wherein said mobility server is a home agent (Section 1.6 – Terminology, Home Agent is a router on a mobile node's home network which tunnels datagrams for delivery to the mobile node when it is away from home, and maintains current location information for the mobile node. Section 1.6 – Terminology, The mobility agent is either a home agent or a foreign agent.).

Regarding claim 19, Perkins teaches the method of claim 13, wherein said registration request message further includes a request to allocate said at least one

network prefix for said first time period. (Section 1.5 – New Architectural Entities, a mobile node is given a long-term IP address on a home network. Section 3.4 – Registration Policy, The reply message contains the necessary codes to inform the mobile node about the status of its request, along with the lifetime granted by the home agent. The request contains the “request to allocate said at least one network prefix for said time period.”).

Regarding claim 20, Perkins teaches the method of claim 13, wherein said first time period is assigned by said mobility server (Section 3.3 Registration Request, A mobile node registers with its home agent using a registration request message so that its home agent can create or modify a mobility binding for that mobile node with a new lifetime.).

Regarding claim 21, Perkins teaches The method of claim 20, wherein said first time period is a default time period (Section 3.3 Registration Request, A mobile node registers with its home agent using a registration request message so that its home agent can create or modify a mobility binding for that mobile node with a new lifetime (i.e. default time period).).

Regarding claim 22, Perkins teaches the method of claim 13, wherein said at least one allocated network prefix is identified in said registration request message (Section 3.3 – Registration Request, When the 'S' bit of a registration request is set, the mobile node retains its primary mobility bindings, thus the registration request is for the "allocated network prefix.").

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan J. Jakovac whose telephone number is (571) 270-5003. The examiner can normally be reached on Monday through Friday, 7:30 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Taghi T. Arani can be reached on (571) 272-3787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 4121

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RJ

/Taghi T. Arani/

Supervisory Patent Examiner, Art Unit 4121

11/19/2007